REMARKS

In the Office Action dated November 9, 2010, the Examiner rejected claim 113 as lacking an antecedent basis for "the amplitude" of the calculated error. This is easily correctible by saying earlier in the claim that the error has an amplitude. However, the calculated error obviously has an amplitude and it should not be necessary to define it explicitly. The claim also refers to the sign of the calculated error. The Examiner did not require an antecedent basis for the sign, probably because it is understood -- without an explicit definition -- that a calculated number necessarily has a sign. Since the same thing applies to the amplitude, as a matter of consistency it should not be necessary to include in the claim a statement that the calculated error has an amplitude. Similar remarks apply to the rejection of claim 117 as lacking an antecedent basis for "the amplitude."

The same logic applies to "the current breathing cycle" recited in claim 117. The Examiner rejected the claim for not reciting explicitly a current breathing cycle. However, the independent claim is for an apparatus that provides ventilatory pressure support for a patient who it is understood is breathing (or else he would not need any support). And a patient who breathes has breathing cycles. There is no reason to explicitly define something that is understood.

Common sense has to be applied. For example, suppose there is an invention of an apparatus for automatically tailoring clothes for a customer depending on his height. It would be satisfactory to recite a step such as "cutting ... as a function of the customer's height" without first reciting explicitly that the customer has a height. Similar logic applies here to an error amplitude and current breathing cycle.

All of the claims have been rejected as being anticipated by Berthon-Jones (EP 1,129,742) or as being obvious in view of Berthon-Jones combined with other prior art. Since the only independent claim is claim 112, it should be

sufficient to overcome all of the claim rejections by showing that Berthon-Jones is completely remote from the invention defined by claim 112.

The important features of claim 112, insofar as Berthon-Jones is concerned, are the following:

(1) There are two calculated errors, both of which are functions of the same target ventilation,

(2) Two different-speed control responses are derived for the two respective calculated errors,

(3) The two control responses are combined to produce an overall control response, and

(4) The overall control response increasingly favors one of the two different control responses over the other depending on the extent of the difference between a ventilation measure and a target value.

Berthon-Jones is directed to something completely different. The pressure profile of a ventilator changes in two ways -- shape and amplitude. As the Examiner noted, there is a calculated error in Berthon-Jones, the error being a function of $(0.5\,|f|-V_{TGT})$. Depending on the magnitude of the error, the amplitude changes, or the shape changes, or both the amplitude and the shape change.

Turning to the first of the four features listed above, the Examiner says that in Berthon-Jones there are two calculated errors, one when $(0.5\,|f|-V_{TGT})$ is positive and one when $(0.5\,|f|-V_{TGT})$ is negative. The fact is that there is only one "error" -- $(0.5\,|f|-V_{TGT})$. It can be positive or negative, but it is a single parameter. It is artificial to call the set of positive values and the set of negative values different parameters when they are both values of a single parameter.

As for the second listed feature, applicant agrees that if there are two calculated errors, then there are two control responses, one for positive values and one for negative values of $(0.5\,|f|-V_{TGT})$. However, as discussed above, there are not two control responses.

It is when the third and fourth features are considered that the Examiner's application of the claim to Berthon-Jones beaks down completely. The Examiner herself refers to the first control response being that in effect when $\Pi(\Phi)$ is a square wave and the second control response being that in effect when $\Pi(\Phi)$ is a smoother wave. But feature (3) requires the two control responses to be combined to produce an overall control response. The Examiner summarily states that in Berthon-Jones the two responses are combined to produce an overall control response, but exactly the opposite is the case. There is no combined response in Berthon-Jones. The waveform may change shape from one extreme to the other, but at any one time there is only one control response. And feature (4), by which the overall control response increasingly favors one of the two different control responses over the other depending on the extent of the difference between a ventilation measure and a target value, is totally absent from Berthon-Jones and makes no sense whatsoever in the context of Berthon-Jones. At any given time, there is a single pressure waveform template $\Pi(\Phi)$ that governs system operation. There are not two control responses that are combined, and there certainly is no overall control response that increasingly favors one or the other of two different control responses as the claim requires. The Examiner seems to be saying that a single control template that changes shape can be thought of as two combined templates with changing influences. That is like characterizing a person as a combined child and elder, whose relative contributions change as the person ages. That is an artificial construction, and the Examiner has done the same thing in applying Berthon-Jones to the claim in issue.

In connection with the rejection of claim 113, the Examiner cited page 6, lines 25-26 and 45-55, as support for Berthon-Jones having "two control responses [each of which] is a function of the amplitude and sign of the respective one of the calculated errors." But there is only one calculation -- $(0.5\,|f|-V_{TGT})$ -- not two. Its value changes, but there is only a single function that is calculated. [The variable K in Berthon-Jones is derived from $(0.5\,|f|-V_{TGT})$

and either value can be thought of as the "error." But certainly the Examiner is not treating K and $(0.5|f|-V_{TGT})$ in Berthon-Jones as two separate error values.]

That there are features that are common to Berthon-Jones and the subject application is without question, and the Examiner has identified some of them in her analysis of the dependent claims (e.g., using a target value that is an alveolar ventilation, and relying on fuzzy logic). The whole idea of using a pressure template and determining the current phase of a breathing cycle is to be found in both disclosures, as might be expected of two inventions of the same assignee. But the basic feature defined in independent claim 112, that of combining two control responses to produce an overall control response that increasingly favors one of the two over the other depending on the extent of the difference between a ventilation measure and a target value is not to be found in Berthon-Jones, and that is why none of claims 112-134 is anticipated by Berthon-Jones or is obvious in view of Berthon-Jones combined with one or more of the other cited references.

Applicant appreciates the thoroughness and care that went into the Office Action. Nevertheless, the claims should be allowed over the cited art, and the early passage to issue of the application is respectfully requested.

Respectfully submitted,
GOTTLIEB, RACKMAN & REISMAN

Michael I. Rackman
Reg. No. 20,639
Attorney for Applicant
270 Madison Avenue, 8th Floor
New York, NY 10016
(212) 684-3900

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